

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Algebra 1B Pd: \_\_\_\_

**Weekend Word Problem #10: Population Growth**

**The Situation:** Elise and Meg are studying the population growth of the one-eyed tulip-bug, whose population grows by 2.4% monthly. The initial population of the one-eyed tulip-bug is 500.

1. Write the general exponential growth formula.

2. Write the exponential growth function for this situation, leaving  $y$  and  $x$  as variables.

3. How many one-eyed tulip bugs will be present after two months? Show your work and round to the nearest whole number.

4. How many one-eyed tulip bugs will be present after one year? Show your work and round to the nearest whole number.

**TURN PAPER OVER!!**

5. Evaluate the expression for  $x = 0$ . Then, describe what the value of the expression represents for Elise and Meg's situation USING COMPLETE SENTENCES.

Answer: \_\_\_\_\_

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6. Evaluate the expression for  $x = -2$ . Then, describe what the value of the expression represents for Elise and Meg's situation using COMPLETE SENTENCES.

Answer: \_\_\_\_\_

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7. Sketch or otherwise create a picture of the one-eyed tulip bug.

